

***IN THE UNITED STATES PATENT AND TRADEMARK OFFICE***

**Applicant:** Steven J. LOCKE and Devanand PINTO

**Title:** QUANTITATIVE ANALYSIS VIA  
ISOTOPICALLY DIFFERENTIATED  
DERIVATIZATION

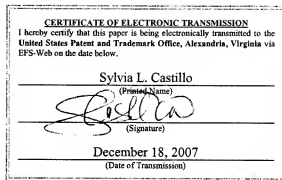
**Appl. No.:** 10/621,958

**Filing Date:** 7/16/2003

**Examiner:** David J. Venci

**Art Unit:** 1641

**Confirmation** 2039  
**Number:**



**AMENDMENT AND REPLY UNDER 37 CFR 1.111**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This communication is responsive to the Non-Final Office Action dated July 18, 2007, concerning the above-referenced patent application. The Action set a 3-month period to reply. This Amendment, together with a 2-month extension of time, is timely filed on or before its due date of December 18, 2007.

**Amendments to the Specification** are reflected on page 2 of this document.

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this document.

**Remarks/Arguments** begin on page 8 of this document.

**Amendments to the Specification:**

Please replace paragraph [00126] with the following:

[00126] Various amines, shown as Compounds in Table 2, were labelled with either CH<sub>2</sub>O or CD<sub>2</sub>O and reduced with sodium cyanoborohydride or sodium cyanoborodeuteride in acetonitrile which contained 10% (v/v) acetic acid or acetic acid d<sub>4</sub>. Various amounts of each labelled amine sample were mixed and analysed by LC-MS. No digestion was required, as the labelled amines molecules were small. The MS used was a triple-quadrupole instrument (API III+) with an IonSpray™ Source source operated in the positive-ion mode. Table 2 provides the details of the analysis. Column 1 lists the names of the amines that were labelled. Column 2 lists the mass of the protonated pseudo-molecular ion. Columns 3 and 4 list the amount of differentially labelled amine combined for the analysis. Columns 5 and 6 list the expected and experimentally determined ratios, respectively. Finally, column 7 lists the calculated percent error. FIG. 8 shows the molecular structure of the amines. The lower panel shows the mass spectrum of 3-aminothiophenol labelled with CH<sub>2</sub>O (m/z=123.0) and CD<sub>2</sub>O (m/z=127.0) and NaCNBH<sub>3</sub>. The expected ratio of intensities was 1.07 and the observed ratio was 1.10, corresponding to an error of 2.7%.